

Abstract

The present invention provides a rat embryonic stem cell characterized by having the following properties of (a) expressing Oct3/4 gene and Nanog gene, (b) positive for alkaline phosphatase activity, (c) having an embryoid body forming ability, (d) expressing SSEA (Stage-Specific Embryonic Antigen)-1 and SSEA-4, (e) having the same number of chromosomes as does a normal rat cell, (f) capable of being subcultured and holding the undifferentiated state, (g) having *in vitro* pluripotency, (h) having a potential to differentiate for cells of three embryonic germ lineages, (i) having teratoma formation ability, and (j) having an ability to produce a chimeric rat, a method of establishing the aforementioned rat embryonic stem cell and the like.